

# 6HF8

## High-Mu Triode— Sharp-Cutoff Pentode

### 9-PIN MINIATURE TYPE

#### GENERAL DATA

##### Electrical:

Heater, for Unipotential Cathodes:

|                               |           |       |
|-------------------------------|-----------|-------|
| Voltage (AC or DC) . . . . .  | 6.3 ± 10% | volts |
| Current at 6.3 volts. . . . . | 0.75      | amp   |

Direct Interelectrode Capacitances:▲

##### Triode Unit:

|   |     |    |
|---|-----|----|
| Grid to plate . . . . .   | 3.5 | μf |
| Grid to cathode, pentode<br>cathode & grid No.3 &<br>internal shield,<br>and heater. . . . .  | 2.8 | μf |
| Plate to cathode, pentode<br>cathode & grid No.3 &<br>internal shield,<br>and heater. . . . . | 2.6 | μf |

##### Pentode Unit:

|   |            |    |
|---|------------|----|
| Grid No.1 to plate. . . . .   | 0.1 max.   | μf |
| Grid No.1 to cathode &<br>internal shield & grid<br>No.3, grid No.2, and<br>heater. . . . . | 10         | μf |
| Plate to cathode & internal<br>shield & grid No.3, grid<br>No.2, and heater. . . . .        | 4.2        | μf |
| Triode grid to pentode plate. . . . .   | 0.015 max. | μf |

##### Characteristics, Class A<sub>1</sub> Amplifier:

|  | Triode<br>Unit | Pentode<br>Unit |             |
|--|----------------|-----------------|-------------|
| Plate Supply Voltage. . . . .  | 200            | 45              | 200 volts   |
| Grid-No.2 Supply Voltage. . . . .                                      | —              | 125             | 125 volts   |
| Grid-No.1 Voltage . . . . .  | —2             | 0               | — volts     |
| Cathode Resistor. . . . .  | —              | —               | 68 ohms     |
| Amplification Factor. . . . .  | 70             | —               | —           |
| Plate Resistance (Approx.). . . . .                                    | 17500          | —               | 75000 ohms  |
| Transconductance. . . . .  | 4000           | —               | 12500 μmhos |
| Plate Current . . . . .  | 4              | 40●             | 25 ma       |
| Grid-No.2 Current . . . . .  | —              | 15●             | 7 ma        |
| Grid-No.1 Voltage (Approx.)<br>for plate μ <sub>a</sub> = 100. . . . . | —              | —               | —9 volts    |
| Grid-No.1 Voltage (Approx.)<br>for plate μ <sub>a</sub> = 20 . . . . . | —6             | —               | — volts     |

##### Mechanical:

|                                 |        |
|---------------------------------|--------|
| Operating Position. . . . .     | Any    |
| Maximum Overall Length. . . . . | 2-5/8" |
| Maximum Seated Length . . . . . | 2-3/8" |



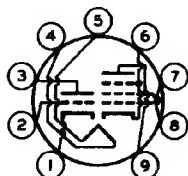
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DATA 1  
3-61

# 6HF8

Length, Base Seat to Bulb Top (Excluding tip) . . . 2"  $\pm$  3/32"  
 Diameter . . . . . 0.750" to 0.875"  
 Dimensional Outline . . . . . See *General Section*  
 Bulb . . . . . T6-1/2  
 Base . . . . . Small-Button Noval 9-Pin (JEDEC No.E9-1)  
 Basing Designation for BOTTOM VIEW . . . . . 9DX

Pin 1 - Triode  
           Cathode  
 Pin 2 - Triode  
           Grid  
 Pin 3 - Triode  
           Plate  
 Pin 4 - Heater  
 Pin 5 - Heater



Pin 6 - Pentode  
           Cathode,  
           Grid No.3,  
           Internal  
           Shield  
 Pin 7 - Pentode  
           Grid No.1  
 Pin 8 - Pentode  
           Grid No.2  
 Pin 9 - Pentode  
           Plate

## AMPLIFIER — Class A<sub>1</sub>

### Maximum Ratings, Design-Maximum Values:

|   | Triode<br>Unit | Pentode<br>Unit            |       |
|---|----------------|----------------------------|-------|
| PLATE VOLTAGE. . . . .  | 330 max.       | 330 max.                   | volts |
| GRID-No.2 (SCREEN-GRID)<br>SUPPLY VOLTAGE . . . . .             | -              | 330 max.                   | volts |
| GRID-No.2 VOLTAGE. . . . .                                      | -              | See <i>Grid-No.2 Input</i> |       |
| <i>Rating Chart</i> at front of Receiving Tube Section          |                |                            |       |
| GRID-No.1 (CONTROL-GRID)<br>VOLTAGE:                            |                |                            |       |
| Positive-bias value. . . . .                                    | 0 max.         | 0 max.                     | volts |
| GRID-No.2 INPUT:  |                |                            |       |
| For grid-No.2 voltages<br>up to 165 volts. . . . .              | -              | 1.1 max.                   | watts |
| For grid-No.2 voltages<br>between 165 and 330<br>volts. . . . . | -              | See <i>Grid-No.2 Input</i> |       |
| <i>Rating Chart</i> at front of Receiving Tube Section          |                |                            |       |
| PLATE DISSIPATION. . . . .                                      | 1 max.         | 5 max.                     | watts |
| PEAK HEATER-CATHODE VOLTAGE:                                    |                |                            |       |
| Heater negative with<br>respect to cathode . . . . .            | 200 max.       | 200 max.                   | volts |
| Heater positive with<br>respect to cathode . . . . .            | 200* max.      | 200* max.                  | volts |

### Maximum Circuit Values:

|                                     | Triode<br>Unit | Pentode<br>Unit |        |
|-------------------------------------|----------------|-----------------|--------|
| Grid-No.1-Circuit<br>Resistance:    |                |                 |        |
| For fixed-bias operation . . . . .  | 0.5 max.       | 0.25 max.       | megohm |
| For cathode-bias operation. . . . . | 1 max.         | 1 max.          | megohm |



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- ▲ Without external shield.
- This value can be measured by a method involving a recurrent wave form such that the maximum ratings of the tube will not be exceeded.
- ★ The dc component must not exceed 100 volts.

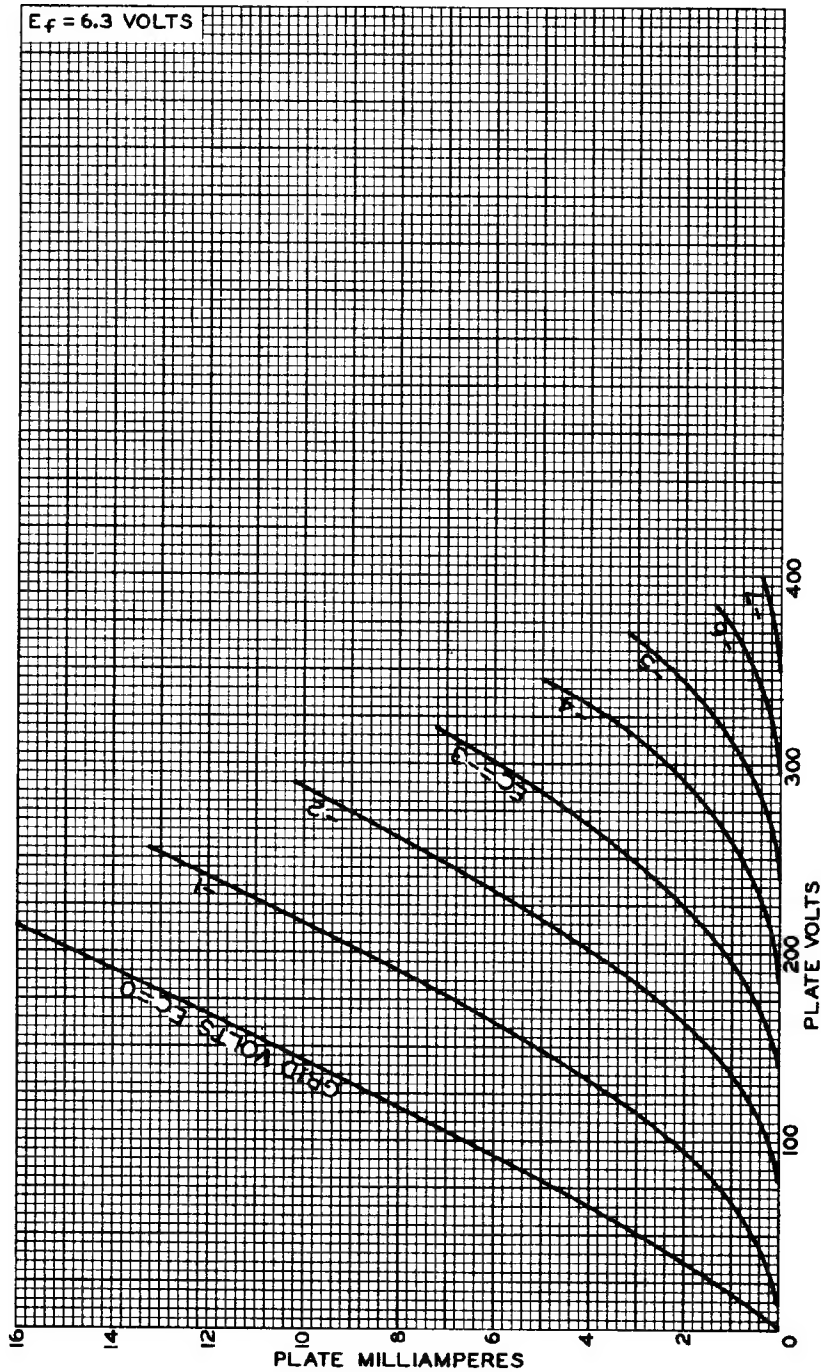


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DATA 2  
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## AVERAGE PLATE CHARACTERISTICS Triode Unit



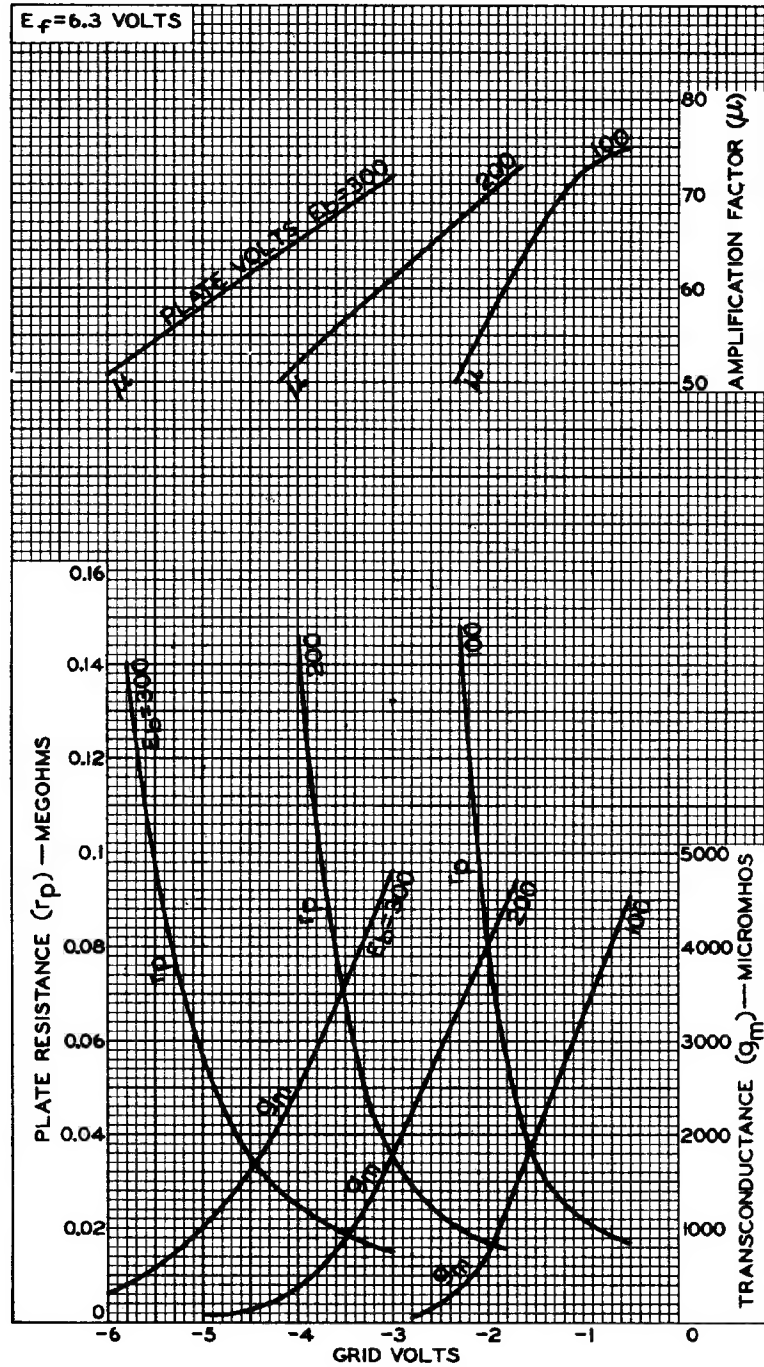
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## AVERAGE CHARACTERISTICS Triode Unit



92CM-10874

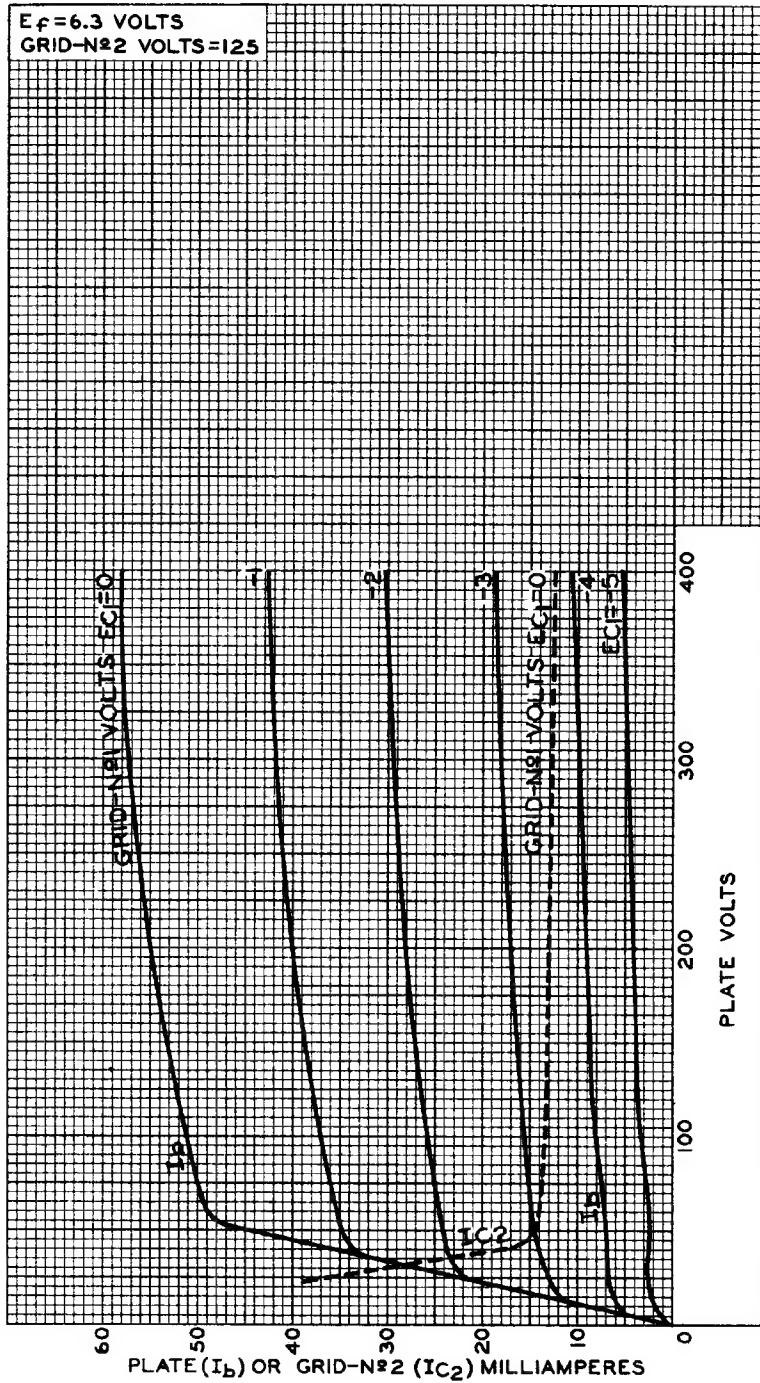


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DATA 3  
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## AVERAGE CHARACTERISTICS Pentode Unit



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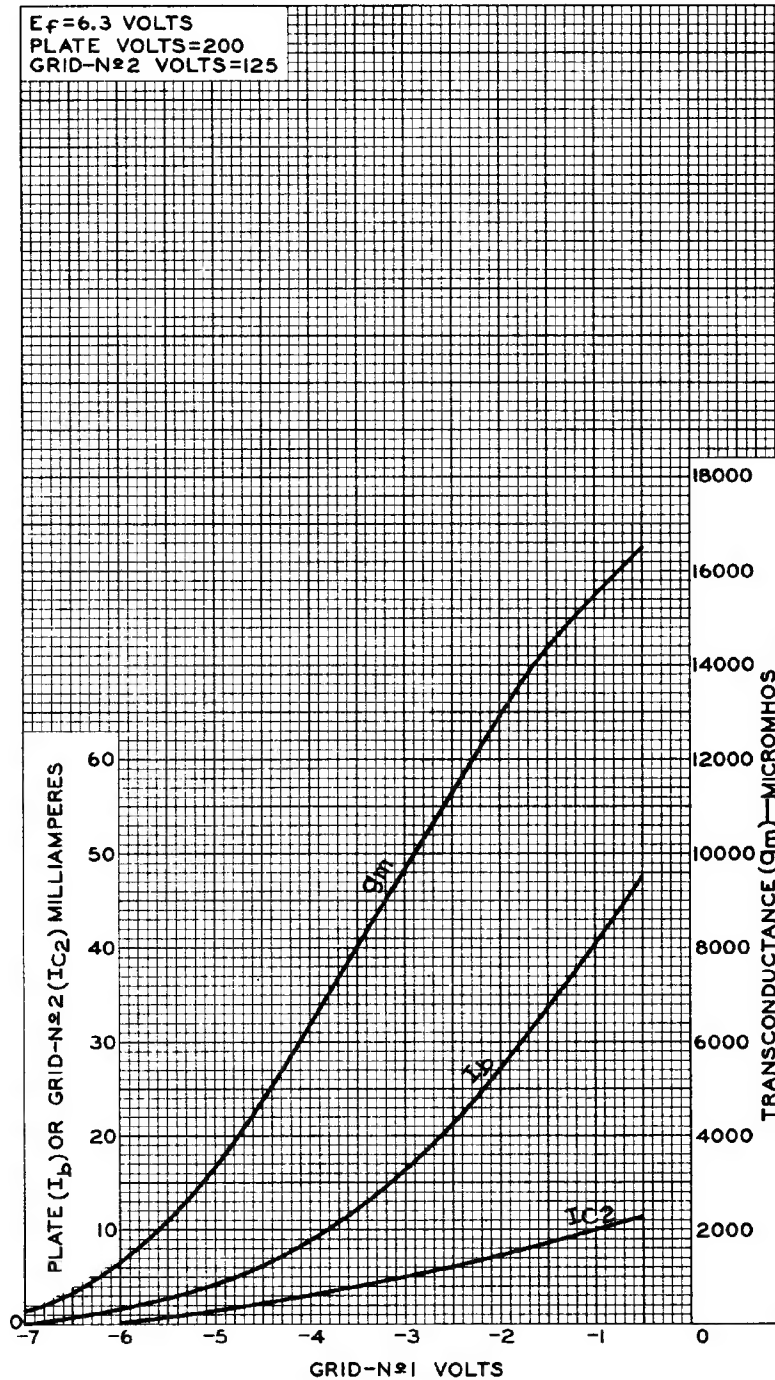
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## AVERAGE CHARACTERISTICS Pentode Unit



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